

Work Order ID 124884

124884

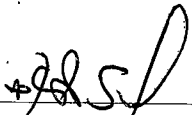
Page 1

Thursday, September 25, 2014 1:07:47 PM

Item ID: D206-667-203RLC Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Aft Crosstube - High 206L / L1 / L3 / L4
 Start Date: 9/25/2014 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 9/25/2014 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: MLS Date: 14-09-25 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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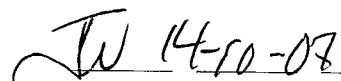
Draw Nbr	Revision Nbr	
D206-667-243	Rev C (DEO)	
DSI9565	A	

100 Document Control 0.00
100 DOCUMENT CONTROL
 DC Memo 0.00
 Doc.Control -USB or Paperwork Photocopy bluefile and create labels as per PPP D206-667-203 CHG004

DAS
98
9-09

OCT 30 2014

110 BENDING MACHINE - CROSSTUBES 0.00
110 CNC Bend 2 Memo 0.00
 CNC Alpha 160 Bender Bend tube as per Dwg D206-667-243 using CNC bender program 206L-AF



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Item ID: D206-667-203RLC

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Aft Crosstube - High 206L / L1 / L3 / L4

Stop ***NS2***Start Date: 9/25/2014 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC15- Crosstube Dimensional Check	0.00							
120									
QC	Memo	0.00							
Quality Control									

DAS
03
9-89

14-10-7

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Item ID: D206-667-203RLC

Accept

N19000040100Setup Start ***NS1***

Revision ID:

Item Name: Aft Crosstube - High 206L / L1 / L3 / L4

Stop ***NS2***Start Date: 9/25/2014 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Crosstubes	0.00							
130						DAS			
Crosstubes						46			
Crosstubes						9-89			14/10/09
	Memo	0.00							
	***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <u> </u> *****								
	1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill all (3) top holes. Holes facing inboard. Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243								
	***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <u> </u> *****								
	2- Drill fwd rivet holes using drill Jig DT8787 fwd as per Dwg D206-667-243. Note: FWD side has 3X top holes facing inboard.								
	3- C'sink holes as per dwg D206-667-243. Allow rivet to sit below surface to compensate for paint.								
	4- Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins. Drill ONLY 2 top holes ONLY. plug most bottom hole to prevent accidental drilling. Drill holes and ream using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes. Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243								
	***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <u> </u> *****								
	5-Drill aft rivet holes using drill Jig DT8787 aft as per Dwg D206-667-243.								

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Item ID: D206-667-203RLC

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Crosstube - High 206L / L1 / L3 / L4

Start Date: 9/25/2014 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Drill only the top (2) holes.

***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING*****
VERIFIED BY: LD *****

6- C'sink holes as per dwg D206-667-243. Allow rivet to sit below surface to compensate for paint.

7- Scribe tube to identify on the inner chamfer in the cuff D# and B#

8-*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***Debur
& Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243

BC 14-10-09

140

QC5- Inspect part completeness to step on W/O 0.00

140

QC

Memo 0.00

Quality Control

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

DAS
38
9-89 14-10-09

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Item ID: D206-667-203RLC

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Aft Crosstube - High 206L / L1 / L3 / L4

Start Date: 9/25/2014 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

0.00

150

HandFXtube

Memo

0.00

Hand Finishing Crosstubes

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

1- CLEAN CROSSTUBE WITH WASH'N WIPE

DAS
38
SEP 15 2014

170

Outsource process - NDT per QSI038 4.1

0.00

170

Outsource2

Memo

0.00

Outsource process - NDT

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

Liquid Penetrant Inspection as per QSI 038Or

Issue P/O: 26140

LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

CL 14/10/14

180

0.00

180

Packaging

Packaging

Memo

0.00

Packaging

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

Ensure copy of NDT results attached to work order.

1x 8014-10-17

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Item ID: D206-667-203RLC Accept ***N19000040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
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 Start Date: 9/25/2014 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 9/25/2014 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Ensure results are as per Dwg D206-667-243	0.00 0.00		1410117					
194 *194* HandFXtube Hand Finishing Crosstubes	Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1- PRESSURE WASH AND THEN USE WASH'N WIPE TO CLEAN CROSSTUBE BEFORE CHEMICAL CONVERSION	0.00 0.00							BL 14-10-17
196 *196* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	0.00 0.00							141017 PD

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Item ID: D206-667-203RLC Accept ***N900040100*** Setup Start ***NS1***
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 Item Name: Aft Crosstube - High 206L / L1 / L3 / L4
 Start Date: 9/25/2014 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 9/25/2014 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	SprayPaint	0.00							DAS 41 9-89
200									
SprayPaint	Memo	0.00							
Spray Painting	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								14-10-19
	1-Prime inside and outside crosstube as per QSI 005 4.2								
	2-Paint outside crosstube with White Imron as per QSI 005 4.2								
	PRIME: 130128								
	Start Time: 1230								
	Finish Time: 100								
	PAINT: 130308								
	Start Time: 500								
	Finish Time: 530								
210	QC14- Inspect Spray Paint	0.00							DAS 38 9-89
210									14-10-20
QC	Memo	0.00							
Quality Control	Wrap in plastic bag to protect from scratches								

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Item ID: D206-667-203RLC Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
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 Start Date: 9/25/2014 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 9/25/2014 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	Crosstubes	0.00							DAS
220									41
Crosstubes									9-89
Crosstubes	<p>Memo <i>N/A</i></p> <p>INSTALL GROUNDING CLAMP AND SEAL WITH SIKAFLEX AS PER DWG AND DEO</p> <p>A/R SIKAFLEX BATCH: _____</p> <p>1-Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg</p> <p>2-Install supports with Proseal 890 per D206-667-243 (DEO) and QSI 015 A/R Proseal 890 Batch: <u>130090</u> EXP: <u>1/15</u></p> <p>3-Install supports clamps Using Dt9565 as per Dwg D206-667-243 (DEO), Torque to 80-100 IN-LBS. PROSEAL CURE TIME 72 HOURS: Start: <u>14-10-20</u> Finish: <u>14-10-23</u></p> <p>4-Install nut plates as per Dwg D206-667-243. Touch-up rivet heads with Imron paint.</p>	0.00							14-10-20

124884

Page 9

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 9/25/2014 **Start Qty:** 1.00 *** 1 ***

Cust Item ID:

Required Date: 9/25/2014 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop ***NR2***

[illegible]

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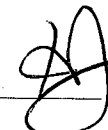
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 Required Date: 9/25/2014 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
270	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D206-667-203								
	Location: _____								
	PPP Rev: _____								
280	QC21- Final Inspection - Work Order Release	0.00							
280									
QC	Memo	0.00							
Quality Control									

OCT 30 2014 **DAS**
46
 9-89

14/11/3 

 10/31

Picklist Print

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Page 1

Work Order ID: 124884

124884

Parent Item: D206-667-203RLC

D206-667-203RLC

Parent Item Name: Aft Crosstube - High 206L / L1 / L3 / L4

Start Date: 9/25/2014

Required Date: 9/25/2014

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 14.09.24 NEW ISSUE II VERF:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D206-667-203TRN		Manufactured	No			220	Each	6.0000	1	1			
D206-667-203TRN													
Crosstube Turning Detail													

Location	Loc Qty	Loc Code
LG014	6	
107546	1	
107547	1	
108690	1	
108691	1	
96976	1	
99460	1	

14-10-07

D2873-043

Manufactured No

220 Each

44.0000

2

2

DAS
41
9-89

14-10-19

D2873-043

Nut Plate Assembly

Location	Loc Qty	Loc Code
LG052	44	
107964	4	
113050	32	
114550	8	

2

D2873-045

Manufactured No

220 Each

47.0000

2

2

DAS
41
9-89

14-10-19

D2873-045

Nut Plate Assembly

Location	Loc Qty	Loc Code
LG052	47	
113144	7	
113886	40	

2

Picklist Print

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Work Order ID: 124884

124884

Parent Item: D206-667-203RLC

D206-667-203RLC

Parent Item Name: Aft Crosstube - High 206L / L1 / L3 / L4

Start Date: 9/25/2014

Required Date: 9/25/2014

Start Qty: 1.00

Required Qty: 1.00

D2892-1

Manufactured No

220

Each

20.0000

2

2

DAS

D2892-1

Support

41

9-89

14-10-20

Location

Loc Qty

Loc Code

LG014

20

115125

20

2

D3595-063-450

Manufactured No

220

Each

200.0000

4

4

DAS

D3595-063-450

Rubber Cushion

41

9-89

14-10-20

Location

Loc Qty

Loc Code

FG

15

88422

5

94274

10

LG050

4

118828

4

LG051

181

109526

2

115083

72

115780

100

117650

7

4

MS20601-AD4W10

Purchased

No

220

Each

507.0000

14

14

DAS

MS20601-AD4W10

RIVET

41

9-89

14-10-19

Location

Loc Qty

Loc Code

LG050

432

M127301

30

M127578

2

M128594

100

M128701

300

LG051

75

M128718

75

16 - 7 2 scrap

Thursday, September 25, 2014 1:07:50 PM

Shop Packet Print

Page 2

Picklist Print

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Page 3

Work Order ID: 124884

124884

Parent Item: D206-667-203RLC

D206-667-203RI C

Parent Item Name: Aft Crosstube - High 206L / L1 / L3 / L4

Start Date: 9/25/2014

Required Date: 9/25/2014

Start Qty: 1.00

Required Qty: 1.00

MS21920-22

Purchased

No

220

Each

178.0000

4

4

MS21920-22

Clamp

DAS

41

9-89

14-10-20

Location

Loc Qty

Loc Code

LG050

178

M127255

2

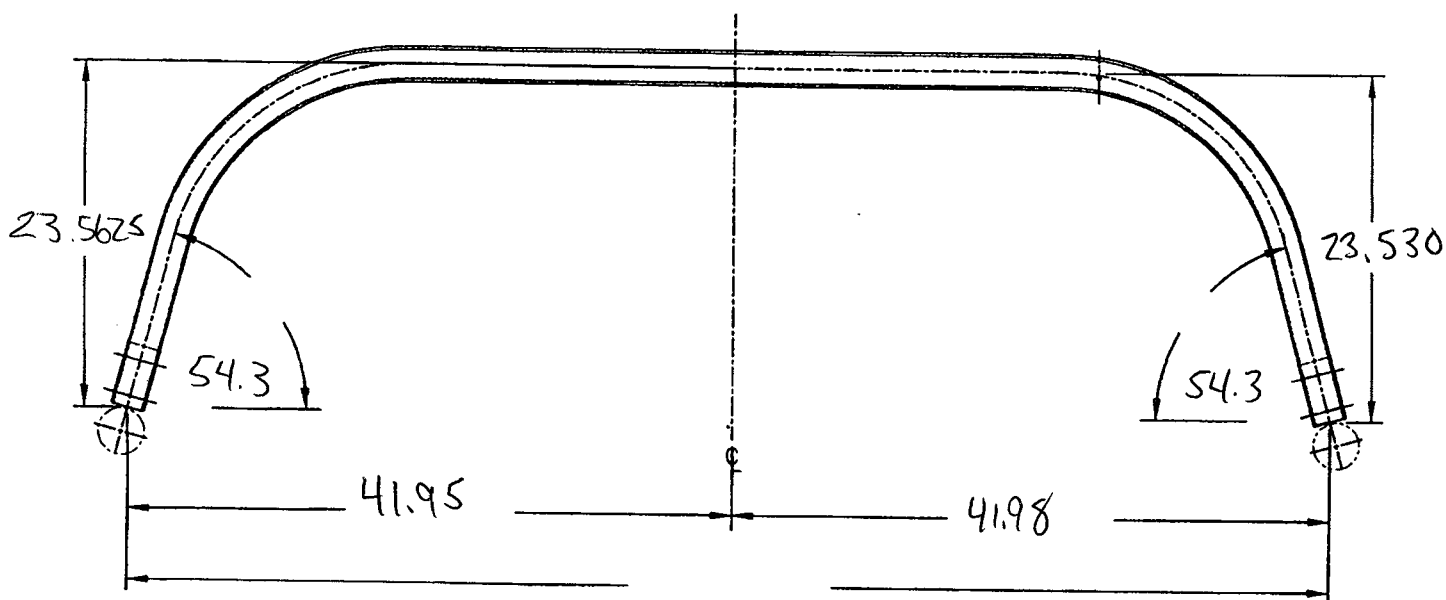
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176


H

DART AEROSPACE LTD		Work Order:	129884
Description: Crosstube High Aft (206L)		Part Number:	D206-667-203
Inspection Dwg: D206-667-243 Rev: C		Page 1 of 1	



Required Dimension	Min	Max
Height	23.39	23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.1
Bending Passes	8	--
Crushing	--	6%



	Side A	Side B
Bending Passes	15	15
Crushing	4.3%	4.4%
Comments		

QC15 Inspection	 DAS 03 9-09
Date	

14-10-7

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.11.17	Dwg Rev updated	KJ	
C	09.12.14	Dimensions update per Dwg Rev C	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	 

Item	Qty -243	Part Number	Description
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W 10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 21.9 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE
D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE
LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER
NO 124884 MWS
1409-25

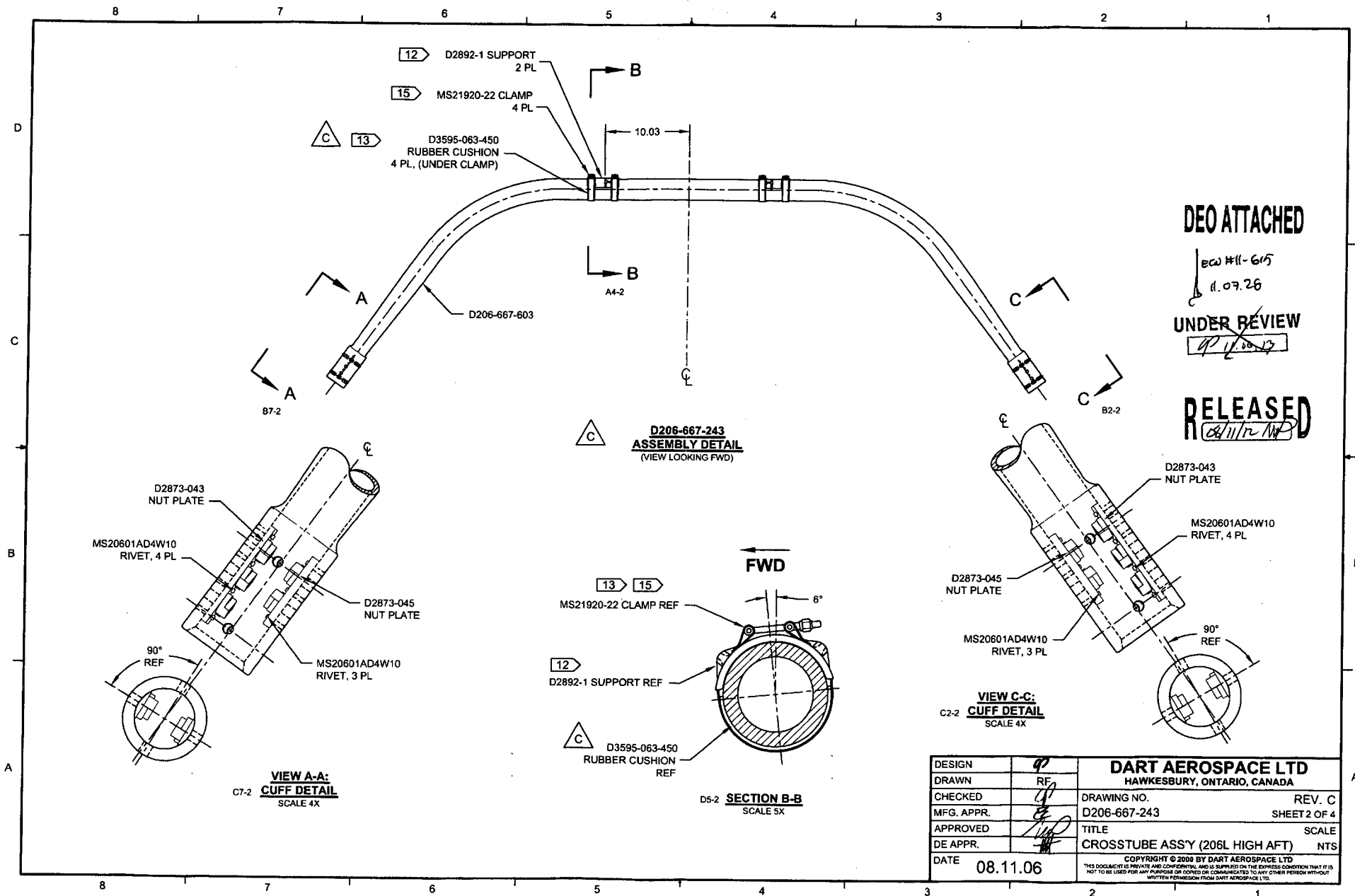
DEO ATTACHED

ECO#K-615
K.07.26

UNDER REVIEW
11/13

RELEASED
08/11/14

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2856-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO. D206-667-243	REV. C SHEET 1 OF 4
CHECKED	RF	TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE NTS
MFG. APPR.	RF	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
APPROVED	RF	DATE 08.11.06	
DE APPR.	RF		

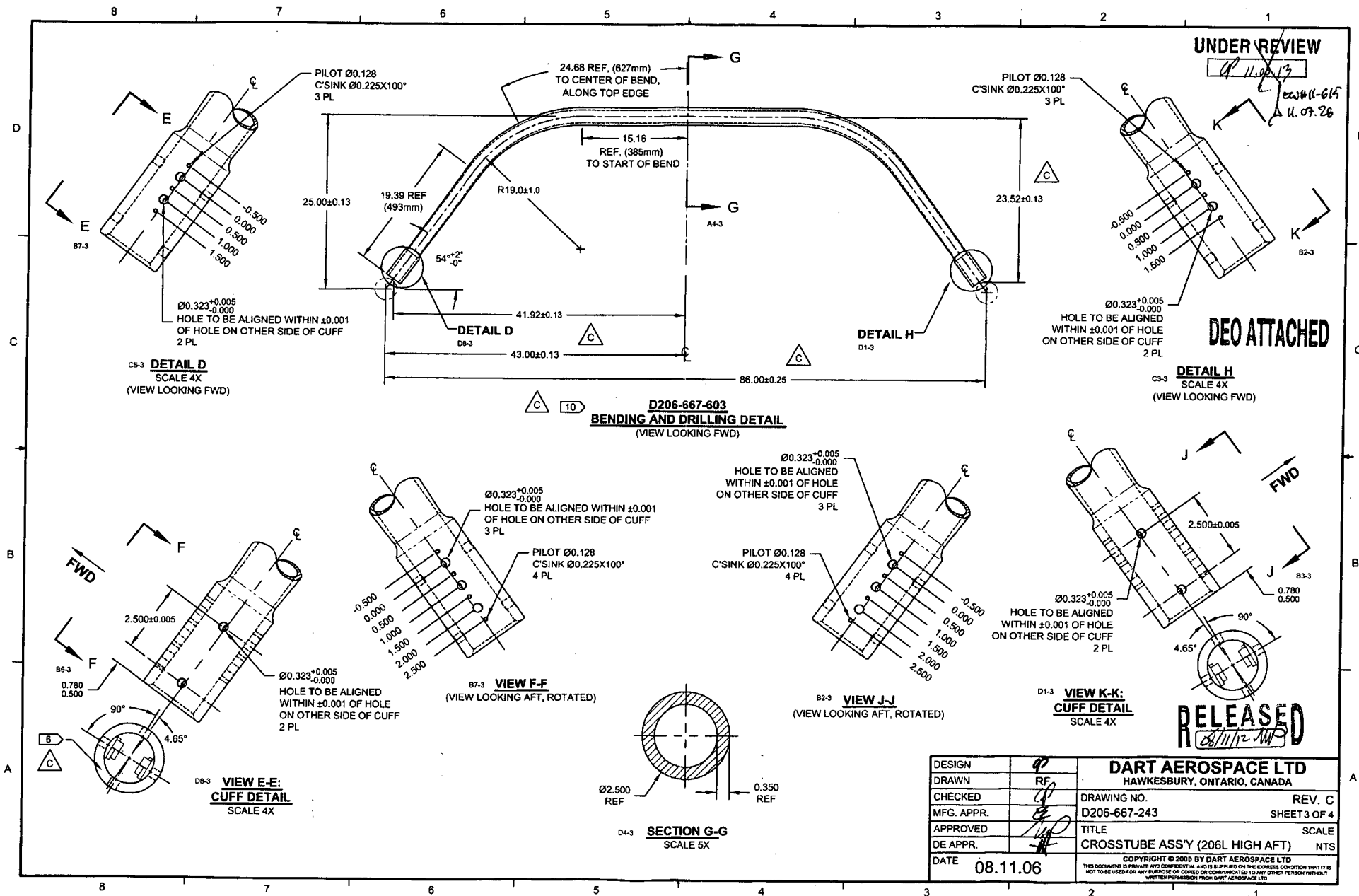


DEO ATTACHED

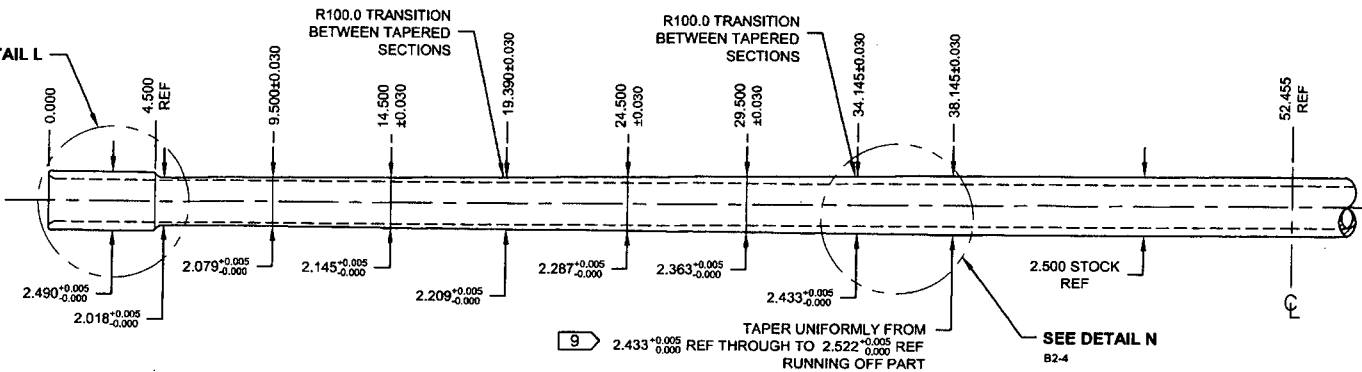
ECW #11-615
d. 07.26

UNDER REVIEW

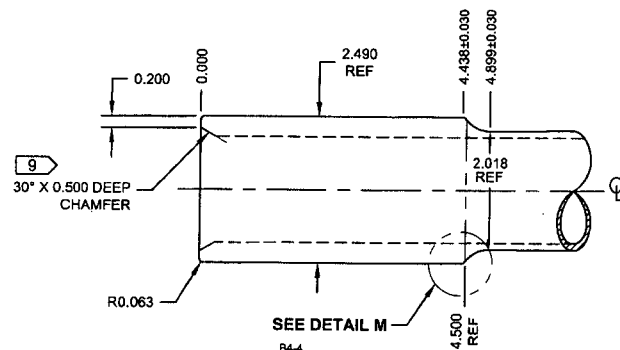
RELEASED
08/11/06



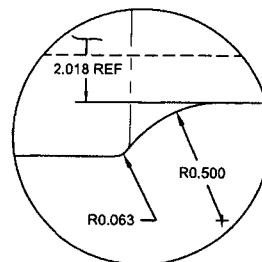
SEE DETAIL L
B7-4



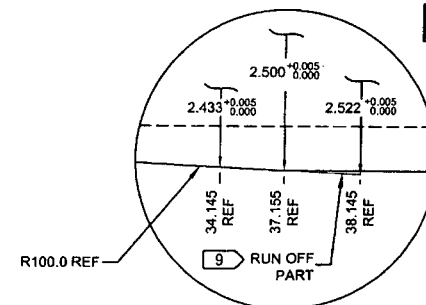
TURNING DETAIL



DETAIL L: CROSSTUBE CUFF
NOT TO SCALE



DETAIL M: CUFF TRANSITION
NOT TO SCALE



DETAIL N: TAPER RUN-OFF
NOT TO SCALE

60 #11-615
 11.07.28
 UNDER REVIEW
 07/11/13

DEO ATTACHED

RELEASED
08/11/2006

DESIGN	90	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	CP	DRAWING NO. D206-667-243	REV. C SHEET 4 OF 4
MFG. APPR.	CP	TITLE	SCALE
APPROVED	CP	CROSSTUBE ASS'Y (206L HIGH AFT)	NTS
DE APPR.	CP	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	08.11.06		

DRAWING NO. D206-667-243	TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D206-667-243-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>qp</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>RB</i>	APPROVED <i>MP</i>		DE APPR. <i>#</i>		
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/07/21		DATE 11.07.21		

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -243	Part Number	Description
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
---	-----	----------------	---

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2892-1 SUPPORT: ABRABE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-07-28
MP

DART SERVICE INSTRUCTION

TO AMEND INSTRUCTIONS FOR CONTINUOUS AIRWORTHINESS ICA-D206-667 Rev. 3 OR LATER

REF. CANADIAN STC: SH01-5

REF. FAA STC: SR01304NY

REF. EASA STC: EASA.IM.R.S.01179

PURPOSE:

The supports on the following crosstubes are now installed using Proseal instead of Magnobond:

D206-667-101 @ CHG 004

D206-667-103 @ CHG 005

D206-667-107 @ CHG 002

D206-667-201 @ CHG 004

D206-667-203 @ CHG 004

D206-667-207 @ CHG 002

D407-667-105 @ CHG 004

CHANGE:

For the crosstubes listed above, section 32.4 of ICA-D206-667 is amended as follows. Use Figures 32-4 to 32-8 of ICA-D206-667 for further reference. For crosstubes of an earlier change number, it is recommended that if the supports are removed, the supports should be reinstalled using the procedure listed below.

32.4 SUPPORT INSTALLATION

- 32.4.1 Locate the area on crosstube for installation of support (ref. Figures 32-4 to 32-8 of ICA-D206-667). For D206-667-101/-103/-107/-201 and D407-667-105 crosstubes, the outward face of the support tabs should be 13.08" (332mm) from the crosstube center. For D206-667-203/-207 crosstubes, the outward face of the support tabs should be 10.03" (255mm) from the crosstube center. Ensure paint finish of crosstube is intact; touch up as required per Chapter 5 (5.3.9) of ICA-D206-667.
- 32.4.2 If present, remove any paint/primer on bottom of supports. Abrade mating surfaces of support and crosstube with 400-grit sandpaper. Saturate a clean cloth with MEK or 4105S Wash'n'Wipe Degreaser or equivalent and wipe until there is no residue.
- 32.4.3 Ensure a layer of 3M Scotch-Weld 2216 B/A Epoxy Adhesive is on the bottom of the support. If required, either apply or touch-up support to have a 0.03" to 0.05" thick layer of adhesive over the entire mating surface. Allow supports to cure for 24 hours.
- 32.4.4 Abrade mating surfaces of support (after cure) and crosstube with 180-grit sandpaper. Saturate a clean cloth with MEK or 4105S Wash'n'Wipe Degreaser or equivalent and wipe until there is no residue.
- 32.4.5 Apply a 0.04" to 0.07" thick layer of Proseal 890 Class B or AMS-S-8802 Class B sealant underneath applicable support and install support.
- 32.4.6 Install the clamps opposite to crosstube support as shown in Figures 32-4 to 32-8 of ICA-D206-667. Install rubber cushions underneath each clamp around the bottom circumference of the crosstube up to the crosstube centerline. Torque clamps 80-100 in·lb (9.0-11.3 Nm). It is acceptable to use smaller or larger sized MS21920-XX clamps than those listed in ICA-D206-667, ensure that after torquing the clamps per this instruction, the nuts are in safety but not bottomed out.
- 32.4.7 Prior to installing crosstube on aircraft, allow supports to cure for 72 hours and recheck torque on clamps.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01





APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 11.07.20

CERT. NO.: SH01-5

ISSUE NO.: 3

A	NEW ISSUE	CP	11.07.15
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED	ASS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9565	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		SUPPORT INSTALLATION CHANGE	NTS
DATE	11.07.15	COPYRIGHT © 2011 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

June 17th 08

Batch:

D206-667-203 Folio

2.5 Rollers w/1.6" shim underneath X

3.125" Shim in buggy A

All programs run with long end of tube on large table.

Tube should be marked @

19.375" from cuff

37" RED from cuff

then centerline 52.4375" ish...

First Step - Approach Y @ 3290 and 1500 on W.

Run programs 206a 1-2-3-4 from **37 line**.

Program 4 stops at 19.375 line. Program 10 will start at that line, then all other programs return to that spot. Run 10-14 without stopping, Flip, Then Repeat same operations for second side. Then check.

Second step - Approach Y @ 3340 & 3440 on W

Run program 15 - 25 as needed.

NOTES:

October 14, 2010 - ran 19, 19c,e, then 20 to get 41.98 @ 23.6 for height. Tube was even. another tube finished at program 25.

Jan 7-11 Ran 2 tubes, tubes were to high. Changed tangent line from 19.5 to 19.375 check next time around. Both tubes were still ok. tubes finished with program 15.

June 6-11 Ran program 15, 15a, 15b and 19 (checked each time program was run on both side) with tangent line change at 37 and tangent line 19.375, with the changes tube was ok. 1/2 span was 41.937 and 41.960. height was 23.625 on both sides. and angles of 54.4 and 54.6

Sept 28/11 after prog 14 we were 1" away. ran 15, skipped 15 a and b, ran 19. still 3/4" away 15 a and b are obsolete. jw

13-02-27 program 19d under revision, one line backs up by 45 points for no apparent reason.

Passes:

1	1
2	2
3	3
4	4
10	10
11	11
12	12
13	13
14	14
15	15
19	19
19c	19c
20	20
21	21
22	22



**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO22450	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: 26140
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN: 0	CSN: 0	TSO: 0	
Task: UNSCHEDULED			Sequence: 1

Work Required:**CARRY OUT NDT INSPECTION (LIQUID PENETRANT) ON 8 CROSSTUBES**

ITEM ID: D412-664-203 AFT CROSSTUBE - HIGH

- 1 - WORK ORDER ID#: 124775
- 2 - WORK ORDER ID#: 124777
- 3 - WORK ORDER ID#: 124773
- 4 - WORK ORDER ID#: 124776
- 5 - WORK ORDER ID#: 124774
- 6 - WORK ORDER ID#: 124778

ITEM ID: D206-667-203RLC AFT CROSSTUBE - HIGH206L / L1 / L3 / L4

- 7 - WORK ORDER ID#: 124884 → 8/14/10/17
- 8 - WORK ORDER ID#: 124885

Action Taken:						Date:	Initial/Stamp:
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-8) AS PER ASTM1417M-13						OCT 16 2014	
NO CRACK FOUND							
Pen: ZL-56 BATCH# 09H094 EXP. DATE: AUG 2014, DEV: SKD-S2 EXP. DATE: OCT2017 CLEANER: SKC-S EXP. DATE: APR 2018							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date:
Name: ANTONINO MARCHETTA		OCT 16 2014



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO26140**

Purchase Order Date 10/16/2014

PO Print Date 10/17/2014

Page Number 3 of 4

Order From :

SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905-678-5636

Ship To Contact

Ship To Phone

Ship Via: Delivered

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB FCA - (Free Carrier)

Line Total: \$0.

7 124884

D206-667-203RLC
CROSSTUBE

10/16/2014

1.00 ✓

\$0.00 \$0.

Yes

4 8:16:00 AM

AS ABOVE

Line Total: \$0.

8 124885

D206-667-203RLC
CROSSTUBE

10/16/2014

1.00 ✓

\$0.00 \$0.

Yes

4 8:16:00 AM

AS ABOVE

Line Total: \$0.

824-10-11

Note:

10/17/2014



skyservice Work Order Traveler

Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO22450	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: 26140
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN: 0	CSN: 0	TSO: 0	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT INSPECTION (LIQUID PENETRANT) ON 8 CROSSTUBES

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- 2 - WORK ORDER ID#: 124777
- 3 - WORK ORDER ID#: 124773
- 4 - WORK ORDER ID#: 124776
- 5 - WORK ORDER ID#: 124774
- 6 - WORK ORDER ID#: 124778

ITEM ID: D206-667-203 RLC AFT CROSSTUBE - HIGH206L / L1 / L3 / L4

- 7 - WORK ORDER ID#: 124884
- 8 - WORK ORDER ID#: 124885

SP14-10-17

Action Taken:						Date:	Initial/Stamp:
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-8) AS PER ASTM1417M-13						OCT 16 2014	
NO CRACK FOUND							
Pen: ZL-56 BATCH# 09H094 EXP. DATE: AUG 2014, DEV: SKD-S2 EXP. DATE: OCT2017 CLEANER: SKC-S EXP. DATE: APR 2018							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date:
Name: ANTONINO MARCHETTA		OCT 16 2014